

Title (en)
IMPROVED MICROFINISHING APPARATUS AND METHOD

Publication
EP 0161748 B1 19900704 (EN)

Application
EP 85301582 A 19850307

Priority
US 60820184 A 19840507

Abstract (en)
[origin: EP0161748A2] A microfinishing apparatus and method is disclosed particularly useful for microfinishing workpiece surfaces such as are found in journal bearings and cylinder bores. This invention improves over conventional machines and methods wherein coated abrasive tape is brought into contact with a relatively rotating workpiece surface and is pressed against that surface by an elastomeric plastic insert. According to this invention, the insert is made from a relatively rigid substance such as honing material stone. Since the insert is made from a rigid material, the insert surface shape is generated in the workpiece surface and therefore geometry corrections in the workpiece surface can be accomplished. In alternate embodiments of this invention, the rigid inserts have relieved portions or noncylindrical surfaces such that a desired surface profile in the workpiece surface is generated. In another embodiment, one or more flexible inserts are added to the rigid insert enabling the fillet radius area to be microfinished. In yet another embodiment, coated abrasive tape includes a multiplicity of perforations thereby permitting the exchange of cutting fluids between the surfaces. Finally, several means for supporting the rigid inserts for slight rotation relative to the workpiece surface are described.

IPC 1-7
B24B 35/00

IPC 8 full level
B24B 21/16 (2006.01); **B24B 5/42** (2006.01); **B24B 21/00** (2006.01); **B24B 21/02** (2006.01); **B24B 35/00** (2006.01); **B24D 3/00** (2006.01); **B24D 11/00** (2006.01)

CPC (source: EP)
B24B 5/42 (2013.01); **B24B 21/02** (2013.01); **B24B 35/00** (2013.01); **B24D 3/002** (2013.01)

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Designated contracting state (EPC)
DE FR GB IT SE

DOCDB simple family (publication)
EP 0161748 A2 19851121; **EP 0161748 A3 19870422**; **EP 0161748 B1 19900704**; CA 1265343 A 19900206; DE 3578524 D1 19900809; JP H0545380 B2 19930709; JP S60238267 A 19851127

DOCDB simple family (application)
EP 85301582 A 19850307; CA 475233 A 19850227; DE 3578524 T 19850307; JP 5156585 A 19850314